

**List of Claims:**

**Claim 1 (currently amended):** A method for use by a first modem to establish a data communication session connection with a second modem, said method comprising:  
calling said second modem via a telephone line;  
~~performing a sequence in which identification data is transmitted between said first modem and said second modem, wherein said performing said sequence comprises:~~  
starting a physical handshaking process with said second modem;  
transmitting a pseudo-randomly generated code word to said second modem during said physical handshaking process;  
receiving a scrambled code word from said second modem, wherein said scrambled code word is generated by scrambling said code word during said physical handshaking process;  
analyzing said scrambled code word during said physical handshaking process; and  
determining if said second modem meets a compatibility criteria based on said analyzing during said physical handshaking process; and  
exchanging identification data with said second modem if said determining determines that said second modem meets said compatibility criteria.

**Claim 2 (original):** The method of claim 1 wherein said identification data comprises information selected from the group consisting of a platform identifier, a controller revision, a DSP revision, and a firmware revision.

**Claim 3 (cancelled)**

**Claim 4 (currently amended):** The method of claim 1 further comprising  
completing said physical handshaking process to start said data communication session  
with said second modem;  
optimizing said ~~connection~~ data communication session based on said compatibility criteria;  
wherein said exchanging said identification data occurs after said completing said physical handshaking process.

**Claim 5 (currently amended):** The method of claim 1 further comprising  
optimizing said ~~connection~~ data communication session based on said identification data,  
wherein said exchanging said identification data occurs during said physical handshaking process.

**Claim 6 (currently amended):** The method of claim 1, wherein after said determining,  
said sequencee method further comprising:  
opening a primary data channel;  
thereafter opening a second logical channel; and  
transmitting diagnostic/maintenance data to said second modem using said second logical channel.

**Claim 7 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises customer platform identification data.

**Claim 8 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises customer code revision identification data.

**Claim 9 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises modem initialization data.

**Claim 10 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises a remote query by said first modem of the responses of said second modem to AT commands.

**Claim 11 (previously presented):** The method of claim 6 wherein said diagnostic/maintenance data comprises information regarding a status of call waiting.

**Claim 12 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises remote network management information.

**Claim 13 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises system configuration data.

**Claim 14 (previously presented):** The method of claim 6 wherein said transmitting said diagnostic/maintenance data further comprises:

transmitting a command to said second modem; and

receiving a response from said second modem in response to said command.

**Claim 15 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises firmware revision data transmitted from said first modem to said second modem.

**Claim 16 (original):** The method of claim 6 wherein said diagnostic/maintenance data comprises uniquely generated call identification data.

**Claim 17 (original):** The method of claim 16 wherein said call identification data comprises time information.

**Claim 18 (currently amended):** The method of claim 16 ~~wherein~~ wherein said call identification data comprises information regarding the types of modems being connected.

**Claim 19 (currently amended):** The method of claim 16 ~~wherein~~ wherein said call identification data comprises information regarding which telephone line is being used.

**Claim 20 (original):** The method of claim 6 wherein said second logical channel is used simultaneously with said primary data channel.

**Claim 21 (original):** The method of claim 20 further comprising:  
analyzing said primary data channel and said second logical channel for usage; and prioritizing said primary data channel if both said primary data channel and said second logical channel are simultaneously used.

**Claim 22 (previously presented):** The method of claim 6 further comprising transmitting said identification data on said second logical channel.

**Claim 23 (currently amended):** The method of claim 6 wherein the diagnostic/maintenance data is used to optimize the ~~connection of the first modem and the second modem~~ data communication session.

**Claim 24 (currently amended):** The method of claim 6 further comprising:  
sending AT commands to the second modem on the second logical channel; and receiving a response to said AT commands from said second modem.

**Claim 25 (currently amended):** The method of claim 6 further comprising:  
receiving AT commands from the second modem on the second logical channel; and transmitting a response to said AT commands.

**Claim 26 (previously presented):** The method of claim 6 wherein said diagnostic/maintenance data comprises a remote query to responses of said second modem to diagnostic query commands.

**Claim 27 (previously presented):** The method of claim 6 wherein said diagnostic/maintenance data comprises a random or pseudo-random number which indexes into a database uniquely or pseudo-uniquely identifying call conditions.

**Claim 28 (previously presented):** The method of claim 6 further comprising:  
sending a query command to the second modem on said second logical channel; and  
receiving a response to said query commands from said second modem.

**Claim 29 (currently amended):** The method of claim 6 further comprising:  
receiving a query command from the second modem on said second logical channel; and  
transmitting a response to said query commands to said second modem.

**Claim 30 (previously presented):** A modem identification method for use by a first modem, said method comprising:

placing a call by said first modem to a second modem;  
entering a physical handshaking process;  
transmitting a first modem manufacturer parameter to said second modem during said physical handshaking process, wherein said first modem manufacture parameter identifies said first modem;

receiving a second modem manufacturer parameter from said second modem during said physical handshaking process, wherein said second modem manufacture parameter identifies said second modem; and

completing said physical handshaking process to establish a data communication session with said second modem.

**Claim 31 (previously presented):** The method of claim 30, wherein said first modem manufacturer parameter is a DSP revision of said first modem.

**Claim 32 (previously presented):** The method of claim 30, wherein said first modem manufacturer parameter is a firmware revision of said first modem.

**Claim 33 (previously presented):** The method of claim 30, wherein said first modem manufacturer parameter is transmitted as part of V.8.

**Claim 34 (previously presented):** A modem identification method for use by a first modem, said first modem being in communication with a host, said method comprising:

placing a call by said first modem to a second modem;  
completing a physical handshaking process to establish a data communication session with said second modem;

establishing an error correction process with said second modem, said error correction process having a primary channel, for exchanging data between said host and said second modem, and a secondary channel;

transmitting a first modem manufacturer parameter to said second modem via said secondary channel, wherein said first modem manufacturer parameter identifies said first modem;  
receiving a second modem manufacturer parameter from said second modem via said secondary channel, wherein said second modem manufacturer parameter identifies said second modem.

**Claim 35 (previously presented):** The method of claim 34, wherein said first modem manufacturer parameter is a DSP revision of said first modem.

**Claim 36 (previously presented):** The method of claim 34, wherein said first modem manufacturer parameter is a firmware revision of said first modem.

**Claim 37 (previously presented):** The method of claim 34, wherein said error correction process is based on V.42 Recommendation.

**Claim 38 (currently amended):** A method of authenticating an identification process for use by a first modem in communication with a second modem, said method comprising:

starting a physical handshaking process with said second modem;  
receiving a random code by said first modem from said second modem during  
said physical handshaking process;  
scrambling said random code, in accordance with a predetermined scrambling process, to generate a scrambled code during said physical handshaking process;  
sending said scrambled code to said second modem to confirm compatibility  
during said physical handshaking process;  
receiving a second modem manufacturer parameter from said second modem ~~in response to after~~ said sending said scrambled code, wherein said second modem manufacture  
parameter identifies said second modem; and  
transmitting a first modem manufacturer parameter to said second modem,  
wherein said first modem manufacture parameter identifies said first modem.

**Claim 39 (cancelled)**

**Claim 40 (currently amended):** The method of claim 39 38, wherein said transmitting said first modem manufacturer parameter occurs during a said physical handshaking process.

**Claim 41 (currently amended):** The method of claim 39 38, wherein said transmitting said second modem manufacturer parameter occurs after completion of said a physical handshaking process and establishment of a data communication session with said second modem.

**Claim 42 (currently amended):** The method of claim 39 38, wherein said first modem manufacturer parameter is a firmware revision of said first modem.

**Claim 43 (currently amended):** The method of claim 39 38, wherein said first modem manufacturer parameter is a DSP revision of said first modem.

**Claim 44 (currently amended):** The method of claim 39 38, wherein said transmitting occurs during an error correction process based on V.42 Recommendation.

**Claim 45 (currently amended):** A first modem capable of exchanging identification data with a second modem, said first modem comprising:

- a call module capable of placing a call to a remote device;
- a handshaking module capable of entering a physical handshaking process with said second modem; and
- a transmitter capable of transmitting a first modem manufacturer parameter to said second modem during said physical handshaking process, wherein said first modem manufacturer parameter identifies said first modem;

a receiver capable of receiving a second modem manufacturer parameter from said second modem during said physical handshaking process, wherein said second modem manufacture parameter identifies said second modem;

wherein, after said transmitter transmits said first modem manufacturer parameter to said second modem and said receiver receives said second modem manufacturer parameter from said second modem, said handshaking module completes said physical handshaking process to establish a data communication session with said second modem.

**Claim 46 (previously presented):** The modem of claim 45, wherein said first modem manufacturer parameter is a DSP revision of said first modem.

**Claim 47 (previously presented):** The modem of claim 45, wherein said first modem manufacturer parameter is a firmware revision of said first modem.

**Claim 48 (previously presented):** The modem of claim 45, wherein said first modem manufacturer parameter is transmitted as part of V.8.